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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: John Doan Examiner #: 74900 Date: 3/6/03
Art Unit: 532 Phone Number 301 918-2 Serial Number: 689 107 US02/3197
Mail Box and Bldg/Room Location: 612-21370 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords; synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Hair Relayer

Inventors (please provide full names): _____

Earliest Priority Filing Date: 11/2/01

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Relayer
Shampooing hair composition method
* Calcium hydroxide + guanidine carbonate
* Weight of Calcium hydroxide = 1.21% -> 3.45% of total
* " of guanidine carbonate 1.68% -> 5.06%

STAFF USE ONLY

Searcher: Julie Walke

Searcher Phone #: 305-8587

Searcher Location: CP2-2208

Date Searcher Picked Up: 3/6/03

Date Completed: 3/7/03

Searcher Prep & Review Time: 64m

Clerical Prep Time: _____

Online Time: 36m

Type of Search

NA Sequence (#) _____

AA Sequence (#) _____

Structure (#) _____

Bibliographic _____

Litigation _____

Fulltext _____

Patent Family _____

Other _____

Vendors and cost where applicable

STN ☒ _____

Dialog ☒ _____

Questel/Orbit _____

Dr.Link _____

Lexis/Nexis _____

Sequence Systems _____

WWW/Internet ☒ _____

Other (specify) _____

	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BRS	L1	591	(hair adj (straight\$ or relax\$))	USPAT	2003/03/07 14:15
2	BRS	L2	64	1 and (calcium adj hydroxide)	USPAT	2003/03/07 14:15
3	BRS	L3	28	2 and (guanidine adj carbonate)	USPAT	2003/03/07 14:17
4	BRS	L4	25	3 and (percent near3 weight)	USPAT	2003/03/07 14:35
5	BRS	L5	1047623	"5" and heat\$	USPAT	2003/03/07 14:42
6	BRS	L6	0	4 and Fahrenheit	USPAT	2003/03/07 14:42
7	BRS	L7	25	4 and method	USPAT	2003/03/07 14:42
8	BRS	L8	16	4 and heat\$	USPAT	2003/03/07 14:46
9	BRS	L9	9	4 and degrees	USPAT	2003/03/07 14:46
10	BRS	L10	8	9 and heat\$	USPAT	2003/03/07 15:17
11	BRS	L11	4	3 and (heat\$ near3 composition)	USPAT	2003/03/07 15:25
12	BRS	L12	0	3 and (heat\$ near3 hair)	USPAT	2003/03/07 15:46
13	BRS	L13	65	(calcium adj hydroxide) and (guanidine adj carbonate)	USPAT	2003/03/07 15:47
14	BRS	L14	2	13 and (heat\$ near3 hair)	USPAT	2003/03/07 16:04
15	BRS	L15	6	13 and (heat\$ near3 composition)	USPAT	2003/03/07 16:05

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percent of guanidine carbonate hair relaxer

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Searched the web for **percent of guanidine carbonate hair relaxer**. Results 1 - 3 of about 5. Search took 0.15 s

Chemical Hair Straightening Faqs By Karen M. Shelton

... solution may vary anywhere from 5 to 10 **percent**. ... still may do some damage to the hair. ... of

calcium hydroxide cream with **guanidine carbonate** "activator" solution ...
beautywalk.com/beauty/january03/ Chemical_Hair_Straightening_Faqs.htm - 34k -

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THE CHEMICAL TRUTH ABOUT RELAXERS

... solution may vary anywhere from 5 to 10 **percent**. ... of calcium hydroxide cream with **guanidine carbonate** "activator" solution. ... Karen M. Shelton, **Hair Boutique** ---, ...

karmella.tripod.com/relaxers.html - 18k - [Cached](#) - [Similar pages](#)

Christine Hamilton 98

... Mineral content was calculated as **percent** ash after dry ... lye" **relaxer**, prepared with a **guanidine** hydroxide activator ... with a diluted copper **carbonate** solution and ...

www.warren-wilson.edu/~research/Undergrad_Res/nss97-98/abstrspr98.htm - 35k - [Cached](#) - [Similar pages](#)

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Biblio
Patents

4/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014862082
WPI Acc No: 2002-682788/200273
XRAM Acc No: C02-192647

Relaxer composition for keratin fibers, e.g. hair, contains hydroxide compound and activating agent consisting of cysteine-based compounds
Patent Assignee: CANNELL D W (CANN-I); MATHUR H (MATH-I); NGUYEN N V (NGUY-I); L'OREAL SA (OREA)

Inventor: CANNELL D W; MATHUR H; NGUYEN N V
Number of Countries: 100 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200267875	A1	20020906	WO 2002US3392	A	20020221	200273 B
US 20020159962	A1	20021031	US 2001789667	A	20010222	200274

Priority Applications (No Type Date): US 2001789667 A 20010222

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200267875	A1	E	47	A61K-007/00	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

US 20020159962 A1 A61K-007/09

Abstract (Basic): WO 200267875 A1

NOVELTY - A keratin fiber relaxer composition comprises:
(a) hydroxide compound(s) excluding sodium hydroxide, lithium hydroxide and potassium hydroxide; and
(b) activating agent(s) consisting of cysteine-based compounds.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) A method for lanthionizing keratin fibers involving applying the relaxer composition to the keratin fibers for a period of time.

(b) A multicomponent kit for lanthionizing keratin fibers, comprising a first compartment containing the hydroxide compound(s), and a second compartment containing the activating agent(s).

USE - For lanthionizing keratin fibers (e.g. **hair**) to achieve **relaxation** of the fibers.

ADVANTAGE - The **relaxer** composition maintains good **hair** condition. It overcomes discoloration and irritation problems associated with highly alkaline **hair relaxing** or **straightening** compositions. It provides no formation of cystine on hair, skin and/or in solution. The relaxing or straightening effect obtained with low concentrations of hydroxide ion-based **hair relaxers** and **straighteners** is enhanced to a level approximating or equivalent to that obtained with high concentrations.

pp; 47 DwgNo 0/0

Title Terms: RELAX; COMPOSITION; KERATIN; FIBRE; HAIR; CONTAIN; HYDROXIDE; COMPOUND; ACTIVATE; AGENT; CONSIST; CYSTEINE; BASED; COMPOUND

Derwent Class: D21; E19; E37

International Patent Class (Main): A61K-007/00; A61K-007/09

File Segment: CPI

Set	Items	Description
S1	408	HAIR?(3N)(STRAIGHTEN? OR RELAX?)
S2	9468	CALCIUM(2N)HYDROXIDE? ?
S3	344	GUANIDINE(2N)CARBONATE? ?
S4	1	S1 AND S2 AND S3

? show files

File 347:JAPIO Oct 1976-2002/Oct(Updated 030204)
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File 350:Derwent WPIX 1963-2003/UD,UM &UP=200315
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File 371:French Patents 1961-2002/BOPI 200209
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6/5,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01072578

Alkaline hair conditioning compositions containing cationic guar

PATENT ASSIGNEE:

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INVENTOR:

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LEGAL REPRESENTATIVE:

Adams, Harvey Vaughan John et al (93861), Mathys & Squire, 100 Gray's Inn
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PATENT (CC, No, Kind, Date): EP 943315 A2 990922 (Basic)
EP 943315 A3 010829

APPLICATION (CC, No, Date): EP 99200643 990304;

PRIORITY (CC, No, Date): US 35392 980305

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: A61K-007/09

ABSTRACT EP 943315 A2

The invention provides compositions for relaxing and conditioning keratinous fibers, particularly human hair. The compositions of the present invention have a high pH, i.e., a pH greater than 10, preferably, in the range of about 11 to about 14, more preferably about 12 to about 13.5; and include as a conditioning additive a cationic guar. Surprisingly, the cationic guar maintains stability, viscosity and activity over time in the highly alkaline pH of the inventive **hair relaxer** and conditioning compositions of the present invention. The relaxer compositions of the present invention afford beneficial effects to the user, such as softness and ease of wet combing, and cause less damage to hair following application and use. In addition, the conditioning relaxer compositions of the present invention remain on the hair and provide lasting conditioning and relaxing effects after one or more shampoos.

ABSTRACT WORD COUNT: 141

LEGAL STATUS (Type, Pub Date, Kind, Text):

Change: 010530 A2 Legal representative(s) changed 20010406
Application: 990922 A2 Published application without search report
Assignee: 020710 A2 Transfer of rights to new applicant: Clairol
Incorporated (4109580) One Blachley Road
Stamford, CT 06922 US

Examination: 020403 A2 Date of request for examination: 20020125

Search Report: 010829 A3 Separate publication of the search report

LANGUAGE (Publication,Procedural,Application): English; English; English

...SPECIFICATION pH and provide a conditioning effect to the hair. More particularly, the invention relates to **hair relaxer** compositions which are alkaline and contain cationic guar and provide ease of wet combing even...

...a high pH and containing cationic guar as a conditioning agent.

BACKGROUND OF THE INVENTION

Hair relaxers are primarily used to loosen and straighten, i.e., "relax", curly, frizzy and kinky **hair**. **Hair relaxers** are typically cream products having a high pH (i.e., 12.0 to 14.0) and containing, as active components, strong alkalizing additives, such as sodium hydroxide, lithium hydroxide or calcium hydroxide, to **straighten** strands of **hair**. The action of these alkaline additive components results in swelling of the hair to permit...

...benefits and effects of the compositions according to the present invention, compared with commercially-available **hair relaxer** products, have been demonstrated on both laboratory test hair swatches and salon models. The addition...conditioning compositions of the present invention are one or more alkaline earth metal hydroxides, which **relax** strands of **hair**. Examples of suitable alkaline earth metal hydroxides include, but are not limited to, sodium hydroxide, calcium hydroxide, lithium hydroxide, potassium hydroxide, barium hydroxide, strontium hydroxide and mixtures thereof. Preferred is sodium hydroxide. Those having skill in the art will appreciate that if calcium hydroxide is used as a relaxer compound, an activator is preferably used, such as guanidine carbonate, as well as others typically known and used in the art. The alkaline earth metal...present invention and are not intended to limit the invention.

...pH of the composition was 13.5.

EXAMPLE 3

Another example of a high alkaline **hair relaxer** and conditioning composition formulated in accordance with the present invention is presented in this example...

6/5,K/2 (Item 2 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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00383381

HAIR RELAXER CREAM.

HAARENTSPANNUNGSKREM.

CREME RELAXATRICE CAPILLAIRE.

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 362355 A1 900411 (Basic)
EP 362355 A1 920408
EP 362355 B1 950510
WO 8909048 891005

APPLICATION (CC, No, Date): EP 89904433 890323; WO 89US1199 890323

PRIORITY (CC, No, Date): US 173318 880325

DESIGNATED STATES: BE; DE; FR; GB; IT; NL

INTERNATIONAL PATENT CLASS: A61K-007/09;
CITED PATENTS (EP A): FR 2585947 A; FR 2393572 A; FR 2457685 A; US 4416296 A

CITED PATENTS (WO A): US 801866 A ; US 2325353 A ; US 3249998 A ; US 3672050 A ; US 4345376 A

CITED REFERENCES (EP A):

See also references of WO8909048;

NOTE: No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Lapse: 030212 B1 Date of lapse of European Patent in a contracting state (Country, date): BE 19950510, DE 19950811, NL 19950510,
Application: 900411 A1 Published application (A1with Search Report ;A2without Search Report)
Examination: 900411 A1 Date of filing of request for examination: 891206
Search Report: 920408 A1 Drawing up of a supplementary European search report: 920219
Examination: 930804 A1 Date of despatch of first examination report: 930621
Change: 941207 A1 Representative (change)
*Assignee: 941207 A1 Applicant (transfer of rights) (change): Johnson Products Co., Inc. (1849830) 8522 South Lafayette Avenue Chicago, Illinois 60620 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
Grant: 950510 B1 Granted patent
Lapse: 960103 B1 Date of lapse of the European patent in a Contracting State: DE 950811
Lapse: 960131 B1 Date of lapse of the European patent in a Contracting State: BE 950510, DE 950811
Oppn None: 960501 B1 No opposition filed
LANGUAGE (Publication,Procedural,Application): English; English; English

...SPECIFICATION B1

Technical Field

This invention relates to the **straightening** or **relaxing** of **hair**, and in particular to highly alkaline compositions that are phase-stable on ageing.

Background Art

Aqueous highly alkaline **hair relaxing** or **straightening** compositions are known in the art. These compositions usually have a highly alkaline pH of...

...hydroxide. In commercially available products of this type, the guanidine hydroxide is generally prepared using **guanidine carbonate** and **calcium hydroxide**.

When such a no-lye **hair relaxer** is commercially used, the product is supplied as a two-part kit. One part contains the **guanidine carbonate** in substantially liquid form and is commonly called the "activator." The other part contains relatively high amounts of about 4 to about 7 percent **calcium hydroxide** emulsified in a cosmetic cream base. Prior to using, the consumer or beautician mixes the cream and activator portions of the kit together. The resulting no-lye **hair relaxer** is then relatively promptly (preferably within 24 hours) applied to the hair.

For convenience, the...

...about 2.5 weight percent.

In another embodiment, the alkaline material provides part of the **hair relaxer** agent and is convertible to a no-base no-lye **hair relaxer**. For this purpose, an alkaline earth **hydroxide**, preferably **calcium hydroxide**, is present at about 0.1 to about 10 weight percent to provide a no...

...foregoing method comprises, in the water phase, about 4 to about 7 weight percent of **calcium hydroxide**; about 0.1 to about 2 weight percent stearoamphoglycinate; about 1 to about 3 weight...

...clay gellant.

The foregoing no-lye cream base is preferably converted to a no-base **hair relaxer** by admixing it at about 3.5 to about 6 parts by weight with one part by weight of activator solution comprising about 25 to about 30 weight percent **guanidine carbonate** in a thickened vehicle containing a polyhydroxy compound having 3 to about 6 carbon atoms...

...about 0.4 to 0.6 molar. Guanidine concentrations within this range are obtained from **guanidine carbonate** concentrations in the final mixture between about 0.031 and 0.38 molar and **calcium hydroxide** concentrations in the final mixture between about 0.025 and 2.2 molar. In the emulsified composition prior to the addition of aqueous **guanidine carbonate**, the amount of **calcium hydroxide** is generally between about 0.1 and 10 weight percent, and preferably between about 4...

...solution. The activator comprises an aqueous solution of about 25 to about 30 weight percent **guanidine carbonate**, preferably containing a small amount of a polyhydroxy compound and a thickener. The emulsified compositions...

...no-lye" cosmetic cream base of this invention with one part of activator provides improved **hair straightening** where the aqueous activator solution comprises **guanidine carbonate** at about 28 to about 30 weight percent, preferably about 29 weight percent, prior to admixture. The reason for the improved **hair straightening** effect is not fully understood.

Particularly preferred in this regard, is an activator including sorbitol...

...000 on ageing at ambient room temperatures for about one week.

This example illustrates the conversion of no-lye cream base of this invention for use in a no-base no-lye **hair relaxer** procedure.

An aqueous activator (X) solution of **guanidine carbonate** was prepared containing about 28 to about 30 weight percent **guanidine carbonate**, about 0.2 to about 0.25 weight percent sodium alginate (as thickening agent) about...

...to about 3.7 parts of Cream Base G of Example 2 to provide a **hair relaxer** cream. In commercial practice, a representative admixture of about 220 grams Cream Base G and about 60g of the foregoing activator (X) containing about 29 weight percent **guanidine carbonate** was particularly preferred as a **hair relaxer** cream (HR-A).

Likewise Cream Base A of Example 1 can be converted to a **hair relaxer** (HR-B) by admixing one part of activator (X) with about 3.7 to about 6 parts Cream Base A to provide a **hair relaxer** varying from "super" to "regular" strength...

...gellant in excess of about 12 weight percent and contained substantially the same amount of **calcium hydroxide**. Additionally, the HR-A cream was equivalent to or preferred over the commercial **hair relaxer** for ease of distributing and smoothing through the hair, ease of rinsing, after-treatment feel...

...at from 0.05 to 2 weight percent; and/or

(f) the alkaline material is **calcium hydroxide** present at from 4 to 7 weight percent.

7. A no-lye **hair relaxer** resulting from the admixture of a composition as claimed in any of claims 4 to...

...solution containing a salt of an organic base such as guanidine.

8. A no-lye **hair relaxer** as claimed in claim 7 wherein the activator solution comprises **guanidine carbonate** present at from 20 to 30 weight percent prior to admixture.

9. A no-lye **hair relaxer** as claimed in claim 7 or 8 wherein the activator solution further includes a water...

...having from 3 to 6 carbon atoms and a thickening agent.

10. A no-lye **hair relaxer** cream comprising a composition as claimed in any of claims 7 to 9 comprising **guanidine carbonate** present at from 25 to 30 weight percent prior to admixture, where the ...

12. A **hair relaxer** composition as claimed in any of claims 7 to 11 further including cosmetic adjuvants such...

6/5,K/3 (Item 3 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00953172

COMPOSITION AND METHODS FOR LANTHIONIZING KERATIN FIBERS USING AT LEAST ONE ORGANIC NUCLEOPHILE AND AT LEAST ONE HYDROXIDE ION GENERATOR

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Patent Applicant/Inventor:

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Legal Representative:

GARRETT Arthur S (et al) (agent), FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P., 1300 I Street, NW, Washington, DC 20005-3315, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200285317 A1 20021031 (WO 0285317)

Application: WO 2002US8270 20020418 (PCT/WO US0208270)

Priority Application: US 2001838197 20010420

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: A61K-007/09

Publication Language: English

Filing Language: English

English Abstract

Compositions for lanthionizing keratin fibers comprising at least one organic nucleophile and at least one hydroxide ion generator, wherein the at least one organic nucleophile is present in an amount effective to increase the tensile strength of the keratin fibers. Pretreatment compositions for keratin fibers comprising at least one organic nucleophile, wherein the pretreatment composition is applied prior to applying a relaxing composition and further wherein the at least one organic nucleophile is present in an amount effective to increase the tensile strength of the keratin fibers. Methods and multicomponent kits for lanthionizing keratin fibers to achieve relaxation of the keratinous fibers using at least one organic nucleophile.

Legal Status (Type, Date, Text)

Publication 20021031 A1 With international search report.

Examination 20030123 Request for preliminary examination prior to end of 19th month from priority date

Detailed Description

... the keratin fibers, and methods for using the same. The inventive compositions may result in **relaxed** or **straightened hair** with improved mechanical properties. The invention also provides pretreatment compositions for lanthionizing keratin fibers comprising...s market, there is an increasing demand for the hair care products referred to as " **hair relaxers** ," which can **relax** or straighten naturally curly or kinky **hair** . **Hair relaxers** may either be applied in a hair salon by a professional or in the home...

...soluble bases, such as sodium hydroxide (NaOH), or of compositions that contain slightly-soluble metal **hydroxides** , such as **calcium hydroxide** ($\text{Ca}(\text{OH})_2$), which can be converted in situ to soluble bases, such as guanidine hydroxide.

Further, the inventors have discovered that when **guanidine carbonate** and **calcium hydroxide** are mixed, and the resultant guanidine hydroxide is used as a hydroxide ion generator in...of hair treated with guanidine hydroxide have been observed to be better than those of **hair** treated with lye **relaxers** .

6/5,K/4 (Item 4 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00935513

HAIR RELAXER COMPOSITIONS COMPRISING AT LEAST ONE HYDROXIDE COMPOUND
AND AT LEAST ONE ACTIVATING AGENT, AND METHODS OF USING THE SAME

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Patent Applicant/Inventor:

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US (Nationality), (Designated only for: US)

Legal Representative:

GARRETT ARTHUR S (et al) (agent), Finnegan, Henderson, Farabow, Garrett &
Dunner, L.L.P., 1300 I Street, NW, Washington, DC 20005-3315, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200267875 A1 20020906 (WO 0267875)
Application: WO 2002US3392 20020221 (PCT/WO US0203392)
Priority Application: US 2001789667 20010222

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO
RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: A61K-007/00

Publication Language: English

Filing Language: English

English Abstract

A composition for lanthionizing keratin fibers comprising at least one hydroxide compound, with the proviso that said at least one hydroxide compound is not sodium hydroxide, lithium hydroxide or potassium hydroxide; and at least one activating agent chosen from cysteine-based compounds; and methods and kits for use thereof.

Legal Status (Type, Date, Text)

Publication 20020906 A1 With international search report.

Publication 20020906 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Examination 20030109 Request for preliminary examination prior to end of 19th month from priority date

...the keratin fibers. In one embodiment, the process of lanthionizing keratin fibers may result in **relaxed** or **straightened hair**. The invention is also directed to compositions for **straightening** or **relaxing hair** comprising at least one "no-lye" hydroxide compound and at least one cysteine-based activating...

Traditionally, the two main **hair relaxers** used in the **hair care** industry for generating hydroxide ions are referred to as "lye" (lye = sodium hydroxide) relaxers...Ca(OH)₂. For example, the slightly soluble Ca(OH)₂ may be mixed with **guanidine carbonate** to form **guanidine hydroxide**, a soluble but unstable source of **hydroxide**, and insoluble **calcium carbonate** (CaCO₃). This reaction is driven to completion by the precipitation of CaCO₃ and is...

...the time of their use.

In commercial products based on guanidine hydroxide, the concentration of **guanidine carbonate** used is generally at least 5.8% by weight relative to the total weight of...

...needed to remove the ashing.

This ashing may be especially problematic when using strong commercial **hair relaxers** which generally comprise a high concentration of both **guanidine carbonate** and **calcium hydroxide**. For example, according to U.S. Pat. No. 5,679,327, the disclosure of which is incorporated herein by reference, to achieve permanent **hair relaxation**, for example of coarse and resistant hair, the amount of **calcium hydroxide** should generally range from 4% to 10% by weight and the amount of **guanidine carbonate** should generally be 28% by weight.

6/5,K/5 (Item 5 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00932300 **Image available**

HAIR RELAXER SYSTEM AND METHOD THEREFOR
SYSTEME DEFRISANT ET PROCEDE ASSOCIE

Patent Applicant/Assignee:

AVLON INDUSTRIES INC, 5401 West 65th Street, Bedford Park, IL 60638, US,
US (Residence), US (Nationality)

Inventor(s):

AKHTER Humayoun, 3B Kingery Quarter #207, Hinsdale, IL 60521, US,
SYED Ali N, 610 Windsor Road, Inverness, IL 60067, US,

Legal Representative:

OLSON Arne M (et al) (agent), Olson & Hierl, Ltd., 20 North Wacker Drive,
36th Floor, Chicago, IL 60606, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200265982 A2 20020829 (WO 0265982)

Application: WO 2002US2057 20020123 (PCT/WO US0202057)

Priority Application: US 2001783904 20010215

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP

KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU

SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: A61K

Publication Language: English

Filing Language: English

English Abstract

This invention describes a **hair relaxer** system and method that ameliorates and inhibits the adsorption and retention by alkaline, chemically-**relaxed hair** of exogenous multivalent metal ion present in the chemical relaxer, in the rinse water or both employed during the process of **relaxing** naturally curly **hair** with compositions containing strong chemical base. In a preferred relaxer method aspect, the alkaline,

chemically **relaxed hair** was contacted with an aqueous metal ion chelating composition containing at least one multivalent metal ion chelating agent employing a disclosed delivery system adapted for practical salon use. In another preferred relaxer method embodiment, wipes impregnated with multivalent metal ion chelating composition were employed during the relaxer process.

Legal Status (Type, Date, Text)

Publication 20020829 A2 Without international search report and to be republished upon receipt of that report.

...guanidinium hydroxide, in situ. One of the two components typically is an activator solution containing **guanidine carbonate** and the other component is an emulsion creme containing **calcium hydroxide** in excess of the stoichiometric amount needed to form the strong base. As a result, the admixture contains the byproduct calcium carbonate, and unreacted **calcium hydroxide**, each of which can form an observable deposit of calcium mineral on the surface of the hair.

6/5,K/6 (Item 6 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00926172

HAIR RELAXER COMPOSITIONS UTILIZING CATION EXCHANGE COMPOSITIONS
COMPOSITIONS DE PRODUITS DEFRISANTS CONTENANT DES COMPOSITIONS ECHANGEUSES
DE CATIONS

Patent Applicant/Assignee:

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(Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

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(Residence), US (Nationality), (Designated only for: US)

NGUYEN Nghi Van, 8 Churchill Road, Edison, NJ 08820, US, US (Residence),
US (Nationality), (Designated only for: US)

Legal Representative:

GARRETT Arthur S (et al) (agent), FINNEGAN, HENDERSON, FARABOW, GARRETT &
DUNNER, L.L.P., 1300 I Street, N.W., Washington, DC 20005-3315, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200258651 A1 20020801 (WO 0258651)

Application: WO 2001US43193 20011120 (PCT/WO US0143193)

Priority Application: US 2000717206 20001122

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP

KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO

RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: A61K-007/09

Publication Language: English

Filing Language: English

English Abstract

A composition for lanthionizing keratin fibers comprising at least one multivalent metal hydroxide and at least one cation exchange composition. The invention is also drawn to a method for lanthionizing keratin fibers to achieve relaxation of the keratinous fibers.

Legal Status (Type, Date, Text)

Publication 20020801 A1 With international search report.

Publication 20020801 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

...of the keratin fibers. In one embodiment, the process of lanthionizing keratin fibers results in **relaxed** or **straightened hair**.

Straightening or **relaxing** the curls of very curly hair may increase the manageability and the ease of styling...

...water-soluble bases, such as sodium hydroxide (NaOH), or of compositions that contain slightly soluble metal **hydroxides**, such as **calcium hydroxide** (Ca(OH)₂), which can be converted in situ to soluble bases, such as guanidine hydroxide. Traditionally, the two main **hair relaxing** technologies used in the hair care industry for generating hydroxide ions are referred to as...

...Ca(OH)₂. For example, the slightly soluble Ca(OH)₂ may be mixed with **guanidine carbonate** to form **guanidine** hydroxide, a soluble but unstable source of **hydroxide**, and insoluble **calcium** carbonate (CaCO₃). This reaction is driven to completion by the precipitation of CaCO₃ and is...

6/5,K/7 (Item 7 from file: 349)

DIALOG(R) File 349: PCT FULLTEXT

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00832323

HAIR RELAXER COMPOSITIONS UTILIZING COMPLEXING AGENT ACTIVATORS
COMPOSITIONS DEFRISANTES UTILISANT DES ACTIVEURS D'AGENTS COMPLEXANTS

Patent Applicant/Assignee:

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(Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

NGUYEN Nghi Van, 8 Churchill Road, Edison, NJ 08820, US, US (Residence),
US (Nationality), (Designated only for: US)

CANNELL David W, Apartment 12F, 220 E. 73rd Street, New York, NY 10021,
US, US (Residence), US (Nationality), (Designated only for: US)

Legal Representative:

GARRETT Arthur S (et al) (agent), Finnegan, Henderson, Farabow, Garrett &
Dunner, L.L.P., 1300 I Street, NW, Washington, DC 20005-3315, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200164171 A2-A3 20010907 (WO 0164171)

Application: WO 2001US6338 20010228 (PCT/WO US0106338)

Priority Application: US 2000516942 20000301

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR

KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE

SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: A61K-007/06

International Patent Class: A61K-007/09; A45D-007/04

Publication Language: English

Filing Language: English

English Abstract

The present invention provides a composition for lanthionizing keratin fibers comprising at least one multivalent metal hydroxide and at least one complexing agent effective for dissociating said at least one multivalent metal hydroxide in sufficient quantity to effect lanthionization of said keratin fibers. In one embodiment, the complex that is formed between the complexing agent and a metal ion from the multivalent metal hydroxide is soluble in water. The invention is also drawn to a method for lanthionizing keratin fibers to achieve relaxation of the keratinous fibers.

Legal Status (Type, Date, Text)

Publication 20010907 A2 Without international search report and to be republished upon receipt of that report.

Examination 20011206 Request for preliminary examination prior to end of 19th month from priority date

Search Rpt 20020110 Late publication of international search report

Republication 20020110 A3 With international search report.

...of the keratin fibers. In one embodiment, the process of lanthionizing keratin fibers results in **relaxed** or **straightened** hair.

...that are water soluble, such as sodium hydroxide, or compositions that contain slightly soluble metal **hydroxides**, e.g., **calcium hydroxide** ($\text{Ca}(\text{OH})_2$), that are converted in situ to soluble bases, e.g., guanidine hydroxide...

...as $\text{Ca}(\text{OH})_2$. For example, the slightly soluble $\text{Ca}(\text{OH})_2$ is mixed with **guanidine carbonate** to form the soluble but unstable source of hydroxide, guanidine-hydroxide, and the insoluble calcium...

...0 Petrolatum 5.5 Cetearyl alcohol and Cetearyl Phosphate 7.5 Propylene Glycol 3.0 **Calcium Hydroxide** 5.0 Water 60.0 Mixtures of 6.3 g of the $\text{Ca}(\text{OH})_2$ cream (0.315 g or 0.00425 moles of **calcium hydroxide**) and one of the Na_4EDTA solutions having the concentrations shown in Table 2 were stirred...

...Table 2 is shown.

While tetrasodium EDTA alone or the cream without activator does not **relax** the **hair** in 20 minutes, the addition of the traditional activator of 1.8 g of 25% **guanidine carbonate** produces 93% relaxation (A, BI C). When the guanidine salt was replaced with tetrasodium EDTA...

...35% water C 0.315 g, 0.00425 1.8 g of 25% -- 93% moles **Guanidine Carbonate** I D 0.315 g, 0.00425 0.2 g Na_4EDTA /1.8 0...

... 2% $\text{Ca}(\text{OH})_2$ 0.4:1 53

The results indicate that natural kinky **hair** was **relaxed** by the

mixture of tetrasodium EDTA and the cream containing various concentrations the **calcium hydroxide** . One should note that a low relaxing efficiency does not necessarily indicate a negative result...

6/5,K/8 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00367448

IMPROVED HAIR STRAIGHTENING EMULSION
EMULSION CAPILLAIRE DEFRISANTE PERFECTIONNEE

Patent Applicant/Assignee:

JOHNSON PRODUCTS CO INC,

Inventor(s):

DARKWA Adu Gyamfi,

VILLANUEVA Apolonio III,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9707775 A1 19970306

Application: WO 96US13606 19960822 (PCT/WO US9613606)

Priority Application: US 95287 19950825

Designated States: BR CA GB MX AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL
PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: A61K-007/07

Publication Language: English

English Abstract

An improved highly alkaline **hair straightening** emulsion and a two component system for preparing the emulsion are provided. The emulsion employs a combination of strong nitrogenous organic base and alkali metal hydroxide in the presence of an alkaline earth metal cation. Neither the amount of the alkali metal hydroxide nor the amount of organic base present in the emulsion is sufficient by itself to effectively permanently **straighten** naturally curly **hair** . Alkaline earth metal hydroxides are characteristically ineffective as permanent **hair straighteners** . However, surprisingly, the combination is effective for achieving permanent **straightening** of **hair** within a treatment time of not more than about 30 minutes. In use, the emulsion also substantially avoids scalp skin irritation. Also, hair discoloration and hair breakage are minimized.

Detailed Description

...volatile inorganic alkalis (caustic bases) and relatively strong organic nitrogenous bases that are capable of **relaxing** the **hair** , Examples of such caustic bases include alkali metal hydroxides, such as sodium hydroxide (lye), potassium hydroxide, or lithium hydroxide, and also alkaline earth metal **hydroxides** , such as **calcium hydroxide** , barium **hydroxide** and strontium hydroxide, as well as oxides thereof that are capable of forming hydroxides in...

In commercial **hair straightening** systems incorporating such a nitrogenous organic base, usually one component of such a two-component kit comprises a saturated (about 28%) aqueous solution of **guanidine carbonate** and is commonly called the "activator component," The second component of such a kit usually comprises about 4 to about 10 weight percent of dissolved aqueous **calcium hydroxide** together with emulsified lipophilic oleaginous material

and is commonly called the "cream" or "emulsion cream component." The molar ratio of **guanidine carbonate** to **calcium hydroxide** in the resulting mixture of activator component with emulsion cream component determines the amount of guanidine or hydrated guanidine that is produced in situ in the **hair straightening** emulsion. On prolonged standing, the guanidine or guanidine hydrate degrades, and the **hair straightening** emulsion product develops some odor of ammonia. Preferably, such emulsion product is applied to the...

...alkaline earth metal hydroxide, Preferably, a cream emulsion component contains about 3.5 weight percent **calcium hydroxide** or less in combination with no more than about 1,6 weight percent alkali metal...

...under highly alkaline conditions. Preferably, the activator component contains less than about 20% by weight **guanidine carbonate**.

...which is liquid at room temperature;

(e) about 2 to about 3 weight percent of **calcium hydroxide**;

...10 to about 20 weight percent, more preferably about 11 to about 17 weight percent, **guanidine carbonate**. Preferably the activator component composition further includes water-soluble cosmetic adjuvants such as polyhydroxy compounds...

6/5,K/9 (Item 9 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00338906

NOVEL HAIR RELAXER COMPOSITIONS AND METHOD FOR PREPARING SAME
NOUVELLES COMPOSITIONS DEFRISES ET LEURS PROCEDES DE PREPARATION

Patent Applicant/Assignee:

CARSONS PRODUCTS COMPANY,
COWSAR Donald R,

Inventor(s):

COWSAR Donald R,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9621418 A1 19960718

Application: WO 96US18 19960111 (PCT/WO US9600018)

Priority Application: US 95373940 19950113

Designated States: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB

GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL

PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN KE LS MW SD SZ UG AZ

BY KZ RU TJ TM AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF

CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: A61K-007/09

Publication Language: English

English Abstract

Methods for preparing **hair relaxer** compositions which comprise a lithium salt and an alkaline earth hydroxide, wherein the lithium salt is in molar excess to the alkaline earth hydroxide. Compositions, kits containing the compositions, and methods for using the compositions are also disclosed.

Detailed Description

...hydroxide. In commercially available products of this type, the guanidinium hydroxide is generally prepared using **calcium hydroxide** and **guanidine carbonate**. There are presently two principal defects in all of the prior art **hair relaxers**. These are as follows: (1) because of their high alkalinity, all can potentially cause scalp irritation and/or injury during the relaxing treatment; and (2) because all are strong-base **relaxers** capable of dissolving **hair** keratin, all can overprocess the hair causing irreversible damage to the fibrous keratin structure leading...scalp than those deriving from the alkali metal hydroxides. Significantly reducing the irritation potential of **hair relaxers**, however, remains a major technical challenge to relaxer formulators. The problem of overprocessing is manifest...

...lithium hydroxide in the aqueous phase of a suitable oil-in-water emulsion to yield **hair relaxers** having a low potential for skin irritation. One skilled in the art might also prepare...Glycol 5*60 Polyol Alkoxy Ester 1600 Oleth-3 0*30 Lithium Carbonate 2,80 **Calcium Hydroxide** 2*31 Polyquaternium-2 2*00 Process of making: All of the ingredients of the...

6/5,K/10 (Item 10 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00284882

HAIR RELAXER COMPOSITIONS
COMPOSITIONS DE DEFRISAGE DES CHEVEUX

Patent Applicant/Assignee:

AMINCO INC,

Inventor(s):

COWSAR Donald R,

ADAIR Tony R,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9503031 A1 19950202

Application: WO 94US7813 19940719 (PCT/WO US9407813)

Priority Application: US 93956 19930721

Designated States: AM AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB GE HU JP

KE KG KP KR KZ LK LT LU LV MD MG MN MW NL NO NZ PL PT RO RU SD SE SI SK

TJ TT UA UZ VN KE MW SD AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: A61K-007/09

International Patent Class: A61K-07:08

Publication Language: English

English Abstract

The present invention relates to a two-component **hair relaxer** system comprising (a) a first component comprising a cream base containing a water-soluble salt of a relatively strong base with an anion capable of being precipitated by an alkaline earth metal ion under highly alkaline conditions, and (b) a second, separate component, which is substantially free of water, and containing an alkaline material having an alkaline earth metal ion which forms a precipitate with the anion when the first component and second component are mixed.

...water to ensure that the guanidine carbonate is completely dissolved in the activator* The **guanidine carbonate** is typically present in the activator in a high concentration of 20 to 30% by...

The concentration of water-soluble salt (e.g., **guanidine carbonate**) in the cream base is generally from 1 to 20% by weight, preferably from 2 to 15% by weight. More preferred concentrations of the water soluble salt (e.g., **guanidine carbonate**) are from 1 to 10% by weight and most preferred is 6 to 8% by...

6/5,K/11 (Item 11 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00276811

MICROEMULSIFIED HAIR TREATMENT PRODUCTS AND METHODS OF MAKING SAME
PRODUITS DE TRAITEMENT CAPILLAIRE MICRO-EMULSIFIES ET PROCEDES DE
PREPARATION

Patent Applicant/Assignee:

CRODA INC,

Inventor(s):

CLIFTON Thomas W III,

CADE Peter H,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9424987 A1 19941110

Application: WO 94US4488 19940422 (PCT/WO US9404488)

Priority Application: US 9352557 19930423

Designated States: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR
KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SI SK TT UA UZ VN AT BE
CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR
NE SN TD TG

Main International Patent Class: A61K-007/09

Publication Language: English

English Abstract

The present invention relates to hair treatment formulations such as **hair relaxers**, permanent waving agents and depilatories. These formulations are produced utilizing a microemulsion. While it would be expected that such microemulsions would be more irritating than their macroemulsion counterparts, the opposite has been found to be true.

Detailed Description

...containing a relatively low content of protein hydrolyzing or protein reducing agent are classified as **hair relaxing** agents; formulations including an intermediate amount of protein hydrolyzing or protein reducing agents are considered...NaOH,, and LiOH. of course, mixtures are also possible. In fact,, some compounds such as **guanidine carbonate / calcium hydroxide** and Ca(OH)₂ could also be used. However, there may be some sacrifice in...

...used in permanent waving agents. More particularly, the amount of protein hydrolyzing agent used in **hair relaxers** is generally between about 1.0% and about 3% by weight while the amount of...

6/5,K/12 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00186664

**CONDITIONING HAIR RELAXER SYSTEM
LOTION D'ASSOUPPLISSEMENT CAPILLAIRE**

Patent Applicant/Assignee:

JOHNSON PRODUCTS CO INC,

Inventor(s):

DARKWA Adu Gyamfi,
NEWELL Florine,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9104007 A1 19910404

Application: WO 90US5276 19900917 (PCT/WO US9005276)

Priority Application: US 89803 19890922

Designated States: AT BB BE BF BJ BR CF CG CH CM DE DK ES FR GA GB IT LU ML
MR NL SE SN TD TG

Main International Patent Class: A61K-007/09

International Patent Class: A45D-07:04

Publication Language: English

English Abstract

A conditioning activator for a no-lye **hair relaxer** and a conditioning **hair relaxer** system includes a conditioning agent which is a water-soluble cationic compound. In a preferred embodiment the cationic conditioning agent is a cationic polymer. Also disclosed are methods for preparing phase-stable no-lye cream bases suitable for conditioning **hair relaxer** systems.

...applied to the hairline. The term "no-lye" as used herein means that the active **hair straightening** agent is an organic chemical base instead of inorganic caustic base. In commercial practice, the...hydroxide. In commercially available products of this type, the guanidine hydroxide is generally prepared using **guanidine carbonate** and **calcium hydroxide**.

6/5,K/13 (Item 13 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00102223

**HAIR STRAIGHTENING PROCESS AND HAIR CURLING PROCESS AND COMPOSITION
THEREFOR**

COMPOSITION ET PROCEDES POUR DEFRISER OU FRISER LES CHEVEUX

Patent Applicant/Assignee:

CARSON PROD CO,

Inventor(s):

GUARDIA M,

Patent and Priority Information (Country, Number, Date):

Patent: WO 8001038 A1 19800529

Application: WO 78US157 19781115 (PCT/WO US7800157)

Priority Application: WO 78US157 19781115

Designated States: BR MG MW CF CG CM GA SN TD TG

Main International Patent Class: A61K-007/09

International Patent Class: A61K-07:11

Publication Language: English

English Abstract

Compositions and methods for **straightening hair**, wherein the compositions contain, as the principal active ingredient thereof, guanidine hydroxide. The guanidine hydroxide may be conveniently prepared by reacting **calcium hydroxide** and **guanidine carbonate**. Hair may be **straightened** by contacting the hair with the composition and maintaining the hair in a generally straight configuration over at least a portion of the time that the hair is contacted by the composition. Thereafter, the hair may be rinsed and neutralized.

Detailed Description

...an aqueous medium, at least one water-soluble inorganic hydroxide, preferably an alkaline earth metal **hydroxide**, such as **calcium hydroxide**, and at least one water-soluble guanidine salt, such as **guanidine carbonate**. After a suitable time, conveniently about 5 to 45 minutes, the composition is removed from...

Set	Items	Description
S1	398	HAIR?(3N)(STRAIGHTEN? OR RELAX?)
S2	14003	CALCIUM(2N)HYDROXIDE? ?
S3	814	GUANIDINE(2N)CARBONATE? ?
S4	14	S1 AND S2 AND S3
S5	14	IDPAT (sorted in duplicate/non-duplicate order)
S6	13	IDPAT (primary/non-duplicate records only)

? show files

File 348:EUROPEAN PATENTS 1978-2003/Feb W04

(c) 2003 European Patent Office

File 349:PCT FULLTEXT 1979-2002/UB=20030227,UT=20030220

(c) 2003 WIPO/Univentio

Biblio
NPL

7/5/1 (Item 1 from file: 399)
DIALOG(R) File 399:CA SEARCH(R)
(c) 2003 American Chemical Society. All rts. reserv.

122196539 CA: 122(16)196539n PATENT
Hair relaxer compositions containing strong base and alkaline earth metal hydroxides

INVENTOR(AUTHOR): Cowsar, Donald R.; Adair, Tony R.
LOCATION: USA
ASSIGNEE: Aminco, Inc.
PATENT: PCT International ; WO 9503031 A1 DATE: 950202
APPLICATION: WO 94US7813 (940719) *US 93956 (930721)
PAGES: 89 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: A61K-007/09A;
A61K-007/08B DESIGNATED COUNTRIES: AM; AT; AU; BB; BG; BR; BY; CA; CH; CN;
CZ; DE; DK; ES; FI; GB; GE; HU; JP; KE; KG; KP; KR; KZ; LK; LT; LU; LV; MD;
MG; MN; MW; NL; NO; NZ; PL; PT; RO; RU; SD; SE; SI; SK; TJ; TT; UA; UZ; VN
DESIGNATED REGIONAL: KE; MW; SD; AT; BE; CH; DE; DK; ES; FR; GB; GR; IE;
IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR; NE; SN; TD;
TG

SECTION:
CA262003 Essential Oils and Cosmetics
IDENTIFIERS: hair relaxer alk earth metal hydroxide, base hair relaxer,
calcium hydroxide guanidine carbonate hair relaxer
DESCRIPTORS:
Alkaline earth hydroxides... Alkaline earth oxides... Amidines...
Carboxylic acids, biological studies... Carboxylic acids, aliph., biological
studies... Carboxylic acids, aliph., cyclic, biological studies... Carboxylic
acids, aryl, biological studies... Carboxylic acids, di-, biological studies...
Hair preparations, relaxers...
hair relaxer compns. contg. strong base and alk. earth metal hydroxides
Acids, biological studies...
heterocyclic; hair relaxer compns. contg. strong base and alk. earth
metal hydroxides
Bases, biological studies...
strong; hair relaxer compns. contg. strong base and alk. earth metal
hydroxides
CAS REGISTRY NUMBERS:
50-21-5 56-81-5 56-86-0 57-55-6 60-35-5 110-15-6 110-16-7 144-62-7
1305-62-0 1305-78-8 7664-38-2 7664-93-9 biological studies, hair
relaxer compns. contg. strong base and alk. earth metal hydroxides
107-41-5 113-00-8 471-29-4 25265-75-2 44592-85-0 100224-74-6 hair
relaxer compns. contg. strong base and alk. earth metal hydroxides

7/5/2 (Item 2 from file: 399)
DIALOG(R) File 399:CA SEARCH(R)
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96187101 CA: 96(22)187101f PATENT
Guanidine hydroxide composition for waving hair
INVENTOR(AUTHOR): De la Guardia, Mario J.
LOCATION: USA
ASSIGNEE: Carson Products Co.
PATENT: Canada ; CA 1117423 A2 DATE: 820202
APPLICATION: CA 372184 (810303) *CA 318443 (781221)
PAGES: 51 pp. Division of Can. Appl. No. 318,443. CODEN: CAXXA4
LANGUAGE: English CLASS: A61K-007/09
SECTION:
CA162003 Essential Oils and Cosmetics
IDENTIFIERS: hair straightener guanidine hydroxide, calcium hydroxide
guanidine carbonate hair, strontium hydroxide guanidine carbonate hair,

barium hydroxide guanidine carbonate hair

DESCRIPTORS:

Hair preparations, straighteners...

guanidine hydroxide for

CAS REGISTRY NUMBERS:

1305-62-0 biological studies, hair straightener compns. contg. water-sol.
guanidine salts and

64120-25-8 hair straightener compns. contg.

593-85-1 594-14-9 hair straightener compns. contg. alk. earth metal
hydroxides and

17194-00-2 18480-07-4 hair straightener compns. contg. water-sol.
guanidine salts and

Set	Items	Description
S1	158404	HAIR?
S2	322	HAIR?(3N) (STRAIGHTEN? OR RELAX?)
S3	15989	CALCIUM(2N)HYDROXIDE? ?
S4	410	GUANIDINE(2N)CARBONATE? ?
S5	2	S2 AND S3 AND S4
S6	2	RD (unique items)
S7	2	S6 NOT PY>2001

? show files

File 2:INSPEC 1969-2003/Feb W4
(c) 2003 Institution of Electrical Engineers

File 34:SciSearch(R) Cited Ref Sci 1990-2003/Mar W1
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File 35:Dissertation Abs Online 1861-2003/Feb
(c) 2003 ProQuest Info&Learning

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File 305:Analytical Abstracts 1980-2003/Feb W3
(c) 2003 Royal Soc Chemistry

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File 399:CA SEARCH(R) 1967-2003/UD=13810
(c) 2003 American Chemical Society

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info

FT NPL

7/3,K/1 (Item 1 from file: 9)
DIALOG(R)File 9:Business & Industry(R)
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01678672 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Ethnic Emulsion Design

(Details of some of the new ideas in relaxer manufacturing)

Drug & Cosmetic Industry, v 159, n 5, p 42+

November 1996

DOCUMENT TYPE: Journal ISSN: 0012-6527 (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 2247

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:

...stable, yet thixotropic, emulsion. The result is targeted release of active compounds. In terms of **hair relaxers**, this means notably less cuticle damage, lower scalp irritation and greater conditioning. While it is...

Relaxer Scale-Up Considerations

Hair relaxers are oil-in-water creams that contain an alkali active. Conventional lye-type relaxers usually use sodium or lithium hydroxide. No-lye versions are two-part relaxers that use **calcium hydroxide** as the alkali and **guanidine carbonate** as the activator.

...10	2.5
Part B	
Deionized Water	50.0
Propylene Glycol	3.0
Part C	
Calcium Hydroxide	5.0
Deionized Water	10.0

...fill temperature.

Activator	%
Part A	
Deionized water	74.80
Xanthan Gum	0.20
Part B	
Guanidine Carbonate	25.00

7/3,K/2 (Item 2 from file: 9)
DIALOG(R)File 9:Business & Industry(R)
(c) 2003 Resp. DB Svcs. All rts. reserv.

01651304 (USE FORMAT 7 OR 9 FOR FULLTEXT)

No mistake' gentle hair relaxer

(US company, Carson Products, is marketing a new hair relaxer under the Dark & Lovely brand name)

Inside Cosmetics, p 3

October 1996

DOCUMENT TYPE: Journal; News Brief ISSN: 0952-519X (United Kingdom)

TEXT:

A new **hair relaxer** is being marketed by US company, Carson Products, under the Dark & Lovely brand name.

This new relaxer contains a specific amount of **guanidine carbonate** and a cream activator containing **calcium hydroxide**, which are said to make it gentler and safer to use. It also contains conditioners...

7/3,K/3 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

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09178379 SUPPLIER NUMBER: 18899311 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Ethnic emulsion design: new ideas in relaxer manufacturing. (Croda Inc.

hair relaxer production methods)

Obukowho, Patrick; Woldin, Barbara

Drug & Cosmetic Industry, v159, n5, p42(5)

Nov, 1996

ISSN: 0012-6527 LANGUAGE: English RECORD TYPE: Fulltext; Abstract

WORD COUNT: 1963 LINE COUNT: 00209

TEXT:

Relaxer Scale-Up Considerations

Hair relaxers are oil-in-water creams that contain an alkali active. Conventional lye-type relaxers usually use sodium or lithium hydroxide. No-lye versions are two-part relaxers that use **calcium hydroxide** as the alkali and **guanidine carbonate** as the activator.

Emulsion formation itself is based on three energies--chemical, heat and mechanical...

7/3,K/4 (Item 2 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2003 The Gale Group. All rts. reserv.

08478441 SUPPLIER NUMBER: 17843501 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Relaxers / straighteners . (hair preparations) (C&T: Celebrating 50 Years)

Cosmetics and Toiletries, v110, n12, p94(1)

Dec, 1995

ISSN: 0361-4387 LANGUAGE: English RECORD TYPE: Fulltext

...are, however, slightly less convenient to use since consumers must mix a cream relaxer (containing **calcium hydroxide**) and a liquid activator (containing **guanidine carbonate**) before applying the product.

Neutralizing/normalizing shampoo: All **relaxer** treatments leave the **hair** in an alkaline state. To return the hair to its natural pH level, acidic normalizing or neutralizing shampoos are used after rinsing the cream **relaxer** from the **hair**. Today's advanced formulas are mixtures of anionic and amphoteric detergents, combined with cationic polymers...

7/3,K/5 (Item 3 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

08283756 SUPPLIER NUMBER: 17630120 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Hair curl relaxers . (includes related articles)
Obukowho, Patrick; Birman, Michael
Cosmetics and Toiletries, v110, n10, p65(5)
Oct, 1995
ISSN: 0361-4387 LANGUAGE: English RECORD TYPE: Fulltext

...be sodium or lithium hydroxide, or guanidine hydroxide formed by the in-situ reaction of **guanidine carbonate** and **calcium hydroxide** . The oil phase contains a high concentration of oils as well as a surfactant. Because...

...and the no-mix relaxers. Mix no-lye relaxers consist of a cream base containing **calcium hydroxide** and an activator containing **guanidine carbonate** . When the two parts are mixed, the resultant guanidine hydroxide activates the relaxation.

Formula 2...S-10, Croda)	2.50	
B. Water, deionized		50.00
Propylene glycol		3.00
C. Calcium hydroxide		5.00
Water, deionized		10.00
		100.00

Procedure: Combine A with mixing and heat...

...10%

Activator		
A. Water, deionized	74.80	
Xanthan gum (Keltrol F, Kelco)	0.20	
B. Guanidine carbonate (J T Baker)	25.00	
	100.00	

Procedure: Combine A with mixing and heat to...

7/3,K/6 (Item 4 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

06718496 SUPPLIER NUMBER: 13280243 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Ethnic hair care: history, trends and formulation.
Syed, Ali N.
Cosmetics and Toiletries, v108, n9, p99(8)
Sept, 1993
ISSN: 0361-4387 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 4424 LINE COUNT: 00523

...1 will yield a more natural luster and Formula 2 gives a higher gloss.

Chemical Relaxing

Lanthionization, or **hair relaxing** , is a chemical process whereby excessively curly **hair** is permanently **straightened** . The first relaxers were developed around 1940. They were crude concoctions of sodium hydroxide (lye...

...be deemed slightly less convenient to use since it requires mixing

a cream relaxer (containing **calcium hydroxide**) with a liquid activator (containing **guanidine carbonate**).

Relaxer formulation: The formulation and manufacturing of relaxers tend to be quite complicated because the...

...relaxers: Guanidine hydroxide relaxers, called no-lye relaxers, involve two components: a cream containing water, **calcium hydroxide** , petrolatum, mineral oil, emulsifiers and fatty alcohol, and a liquid activator, which is a concentrated solution of **guanidine carbonate** in water.[12] The cream relaxer must be mixed with the liquid activator, usually at a ratio of 3.28:1, before it is applied for **hair straightening** . The fresh mixture reacts to produce guanidine hydroxide in situ according to Figure 2.

No...

...2.00	2.00	2.00		
Polyquaternium 6 or 7	1.00	-	-	
Polyamines	-	1.00	-	
Calcium hydroxide	5.00	5.00	5.00	

Procedure: The no-lye cream relaxer is manufactured similarly...

...Formula 10

Water, deionized (and) propylene glycol	74.80%	75.00%
Xanthan gum	0.20	-
Guanidine carbonate (*)	25.00	25.00
	100.00	100.00

(*) Amount of **guanidine carbonate** may vary, depending upon the desired strength of relaxer.

Procedure: Add water and dissolve ingredients at 45 [degrees] C using a high-shear Lightnin' mixer until all **guanidine carbonate** has dissolve.

Guanidine hydroxide relaxers are usually marketed in one strength, suitable for all textures of hair. More...

...two different strengths: "normal" for fine-to-medium hair and "resistant" for coarse, hard-to- **straighten hair** . The resistant strength typically provides either more liquid activator (1guanidine carbonate solution) or a higher concentration of **guanidine carbonate** in the liquid activator.

Formulas 6 and 7 are conditioning no-lye relaxers, and Formula...

...2.00	2.00	2.00		
Polyquaternium 6 or 7	1.00	--	--	
Polyamines	--	1.00	--	
Calcium hydroxide	5.00	5.00	5.00	
	100.00	100.00	100.00	

Procedure: The no...

...is manufactured similarly

to sodium hydroxide no-base relaxers. The finished product is analyzed for **calcium hydroxide** contents and viscosity.

Part B: Liquid Activators

	Formula 9	Formula 10
Water, deionized (and) propylene glycol	74.80%	75.00%

Xanthan gum	0.20	--
Guanidine carbonate (*)	25.00	25.00
	100.00	100.00

(*) Amount of **guanidine carbonate** may vary, depending upon the desired strength of relaxer.

Procedure: Add water and dissolve ingredients at 45 [degrees]C using a high-shear Lightnin' mixer until all **guanidine carbonate** has dissolved.

Neutralizing/Normalizing Shampoo...

7/3,K/7 (Item 5 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

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05540571 SUPPLIER NUMBER: 11119850 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Ethnic Hair : Moisturizing after relaxer use. (hair styles of Blacks)

Burmeister, Fred; Bollatti, Davide; Brooks, Geoffrey

Cosmetics and Toiletries, v106, n7, p49(3)

July, 1991

ISSN: 0361-4387

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT

TEXT:

...containing either lithium hydroxide or utilizing guanidine hydroxide (formed by the in situ combination of **guanidine carbonate** with **calcium hydroxide**). The hair is left in far worse condition after such harsh treatments and requires significantly...

...that one shampoo (however well formulated) would undo the carefully crafted "soft curl" style.

When **hairstyles** changed and **relaxing** became necessary to achieve the modern fashionable, short, sleek hairstyles, the need to perm the...

...effective formula when processed properly. It is important not to shampoo dirt and sebum from **hair** prior to **relaxing** . The process takes about 15 minutes.

Table : Formula 1. Standard Relaxer

Cetearyl alcohol (and) cetyl...

7/3,K/8 (Item 1 from file: 160)

DIALOG(R)File 160:Gale Group PROMT(R)

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01501408

Cosmetic and hair treatments for the Black consumer.

COSMETICS & TOILETRIES October, 1986 p. 51-582

... skin. Humectants and esters may also be beneficial for Black skin care products. In formulating **hair relaxers** , the Black consumer's hair type, ranging from kinky to wavy, hair thickness, and degrees of resistance, must be taken into account. Some **hair relaxers** are based on sodium hydroxide and/or potassium hydroxide as actives. Others, called 'no lye' **hair relaxers** , are made with **calcium hydroxide** in a creme form and a separate container for **guanidine carbonate** in a liquid form. Two serious problems are encountered producing and using **hair relaxers** . One

is that the stability of the emulsions is poor which unbalances the distribution of...

7/3,K/9 (Item 2 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
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00768844
Carson Products' new hair straightening and hair curling process and compositions use guanidine hydroxide as the primary active ingredient.
Cosmetics & Toiletries April, 1982 p. 104

The guanidine hydroxide is prepared in a 2-component system containing **guanidine carbonate** and **calcium hydroxide** having a pH value preferably about 12.5-13.5. Following treatment, the hair is...

7/3,K/10 (Item 1 from file: 98)
DIALOG(R)File 98:General Sci Abs/Full-Text
(c) 2003 The HW Wilson Co. All rts. reserv.

04647188 H.W. WILSON RECORD NUMBER: BGSA01147188 (USE FORMAT 7 FOR FULLTEXT)
Heading off hair-care disasters.
Meadows, Michelle
FDA Consumer v. 35 no1 (Jan./Feb. 2001) p. 21-4
ISSN: 0362-1332

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

... Cabrera-Avila, 38, when she returned to the salon about six weeks after having her **hair straightened** a couple of years ago. The cause for alarm: several bald spots in the back...

...used incorrectly. Lye relaxers contain sodium hydroxide as the active ingredient. With "no lye" relaxers, **calcium hydroxide** and **guanidine carbonate** are mixed to produce guanidine hydroxide.

Research has shown that this combination in "no lye..."

7/3,K/11 (Item 2 from file: 98)
DIALOG(R)File 98:General Sci Abs/Full-Text
(c) 2003 The HW Wilson Co. All rts. reserv.

04041994 H.W. WILSON RECORD NUMBER: BGSA99041994 (USE FORMAT 7 FOR FULLTEXT)
Chemical hair treatments and adverse pregnancy outcome among black women in central North Carolina.
Blackmore-Prince, Cheryl
Harlow, Sioban D; Gargiullo, Paul
American Journal of Epidemiology (Am J Epidemiol) v. 149 no8 (Apr. 15 1999) p. 712-16
SPECIAL FEATURES: bibl il ISSN: 0002-9262

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

... should be particularly appropriate targets of research; one such factor is the use of chemical **hair straighteners** .

US women (almost all of them Black) who use chemical **hair straighteners** , also known as "relaxers", generally have a treatment every 4 to 8 weeks. Chemical curling...

...5 percent concentrations of sodium hydroxide or potassium hydroxide are used by professional cosmetologists to **straighten hair** (6). Non-lye **relaxers** , used professionally as well as directly by the consumer in the home, contain **calcium hydroxide** cream and **guanidine carbonate** , which are mixed to form guanidine hydroxide. These products disrupt the disulfide bonds in the...

Set	Items	Description
S1	2937	HAIR?(3N) (STRAIGHTEN? OR RELAX?)
S2	1307	CALCIUM(2N)HYDROXIDE? ?
S3	56	GUANIDINE(2N)CARBONATE? ?
S4	13	S1 AND S2 AND S3
S5	11	RD (unique items)
S6	11	S5 NOT PY>2001
S7	11	S6 NOT PD>20011102

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File 9:Business & Industry(R) Jul/1994-2003/Mar 06
(c) 2003 Resp. DB Svcs.

File 16:Gale Group PROMT(R) 1990-2003/Mar 07
(c) 2003 The Gale Group

File 19:Chem.Industry Notes 1974-2003/ISS 200310
(c) 2003 Amer.Chem.Soc.

File 20:Dialog Global Reporter 1997-2003/Mar 07
(c) 2003 The Dialog Corp.

File 148:Gale Group Trade & Industry DB 1976-2003/Mar 06
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File 160:Gale Group PROMT(R) 1972-1989
(c) 1999 The Gale Group

File 319:Chem Bus NewsBase 1984-2003/Mar 03
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File 621:Gale Group New Prod.Annou.(R) 1985-2003/Mar 06
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File 635:Business Dateline(R) 1985-2003/Mar 06
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File 636:Gale Group Newsletter DB(TM) 1987-2003/Mar 06
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File 98:General Sci Abs/Full-Text 1984-2003/Jan
(c) 2003 The HW Wilson Co.

File 369:New Scientist 1994-2003/Feb W3
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File 370:Science 1996-1999/Jul W3
(c) 1999 AAAS